TI-99/4A Home Computer

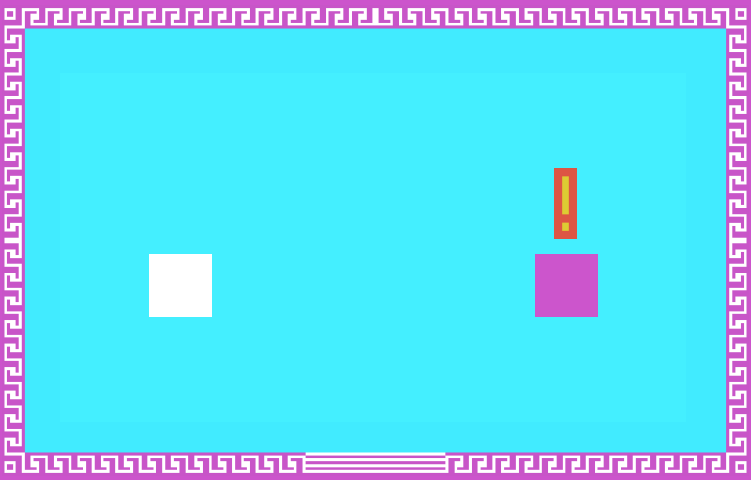
Socrates

REQUIRES 32K MEMORY EXPANSION

SOLID STATE SOFTWARE

COMMAND MODULE

An open-world philosophical exploration of the life and conversations of Socrates, set in ancient Athens.



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Includes Free Digital Download!

Quick Reference Guide

You can play *Socrates* either with the TI-99/4A keyboard or the optional wired controllers (i.e., joysticks). *Socrates* uses modern WASD keyboard controls for player movement, as shown in the following table. Diagonal movement is allowed with joystick control but is not possible when using the keyboard. When using keyboard control, press any key to advance the dialogue. When using joystick control, any movement of the joystick will advance the dialogue.

Control	Keyboard	Joystick
Move Up	W	↑
Move Left	A	←
Move Down	S	↓
Move Right	D	→
Advance Dialogue	Any key	Any direction

Exclamation points, like the one shown at left, will appear above an NPC (non-player character) to indicate that one of your fellow Athenians has something to say. Moving near the marked NPC, from any direction, will trigger its dialogue!

Spark Gap Games

Socrates

(Canva Pro Stock Image)

This Solid State Software Command Module is designed for the TI-99/4A Home Computer equipped with a 32K memory expansion.

Your purchase of this Command Module includes a free digital download of *Socrates*; see page 8 for details. The digital version (v1.2.1) of this manual is available on the Spark Gap Games website; see page 12 for a QR code and URL.

Designers: Zachary Fruhling & Dylan Metzing
Lead Programmer: Zachary Fruhling
Lead Artist: Dylan Metzing
Manual Designers: Zachary Fruhling & Dylan Metzing

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Socrates
Game Overview

Socrates is an open-world educational and philosophical experience! In *Socrates*, you take on the persona of the ancient Greek philosopher Socrates, exploring various locations in the ancient city-state of Athens—the residential district, the *Agora*, the *Acropolis*, various *palestras* (i.e., wrestling schools), the *Stoa of Zeus*, the outskirts of Athens, etc.—and having brief philosophical encounters and dialogues with your fellow Athenians.

Your goal is to complete enough short dialogues to unlock the final rooms (namely, the *Heliaia* or "people's court" and Socrates's prison cell) and to experience the final moments of Socrates's life as he drinks the hemlock. In each new room you will see your location and a counter indicating the number of dialogues you have completed out of 37 total dialogues, each of which corresponds to a specific topic from one of Plato's actual dialogues. Some locations, such as the aforementioned *Heliaia* and prison cell, are sealed off by locked doors that open only after you complete a specific number of dialogues.

We've included a *Socrates* game map on the opposite page. Although the map isn't necessary, it may be helpful if you find yourself lost or stuck. The exclamation points on the map indicate which locations have dialogue available. The start location (Socrates's home) and the end location (Socrates's prison cell) are indicated on the map as well.

Map of Ancient Athens

Historical Background: Who Was Socrates?

Socrates was an ancient Greek philosopher from the city-state of Athens and lived from 470 to 399 BCE. Socrates's friend Chaerephon once visited the Oracle of Delphi and asked if anyone was wiser than Socrates, to which the Oracle replied that no one was wiser. When Socrates heard of this, he was perplexed, as he was convinced that he had no wisdom at all. Thus began Socrates's philosophical quest to find someone wiser than he among his fellow Athenians—questioning politicians and statesmen, sophists and rhetoricians, poets and playwrights, craftsmen and artisans, wrestlers and gymnasts, among others; Socrates seemingly left no area of society and no area of claimed expertise unexamined and unquestioned.

Socrates found, time and again, frustratingly, that those who claimed to be the wisest as a result of their supposed expertise often seemed to understand very little, especially in terms of the essential definitions, or essences, of many important philosophical concepts (Justice, Beauty, Piety, Love, Temperance, etc.). Needless to say, this did not win Socrates many friends among the Athenian elite, and eventually Socrates was charged, tried, and convicted of two capital charges: impiety (i.e., failing to acknowledge the official gods of Athens), and corrupting the youth (i.e., teaching young men of Athens to question traditional beliefs and societal norms).

At his trial Socrates claimed that he never taught anything but merely questioned and examined. He also argued that he had done such a great service to Athens that, instead of being punished, he should be rewarded with free meals in the *Prytaneum*, a dining hall reserved for Olympic victors and state heroes, for his lifelong service to Athens in promoting critical thinking and virtue in the interest and care of his fellow Athenians' souls. This did not go over well with Socrates's jury of

501 people, and Socrates was convicted by a majority of 280 against 221. After some final conversations with his followers about his responsibility to obey even unjust laws and about the immortality of the soul, as recounted in Plato's *Crito* and *Phaedo* dialogues, Socrates drank the hemlock, unceremoniously, to end his own life in the company of friends.

Much of what we know of Socrates comes from various philosophical dialogues on a wide variety of topics written by his student, Plato, along with the writings of other contemporaries (e.g., Xenophon); Socrates himself is not known to have created any writings, making him something of an enigmatic figure in the history of philosophy. Although Socrates was not the first philosopher (that honor traditionally goes to Thales of Miletus), Socrates's influence on the history western philosophy to this very day, both in terms of the specific philosophical topics he discussed and for his unique method of questioning now known as the "Socratic Method," is unmatched and cannot be overstated.

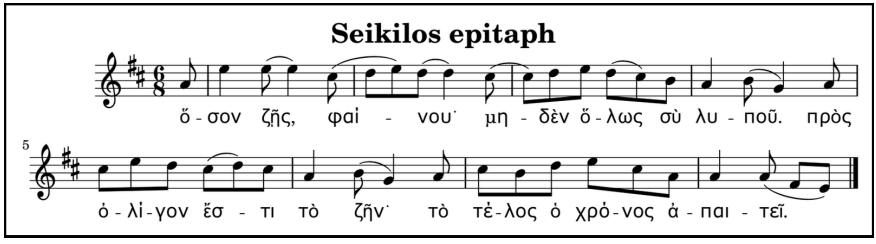
Learn more about the life of Socrates with the following QR code and/or URL.

https://en.wikipedia.org/wiki/Socrates

Seikilos Epitaph (Title Screen Music)

The music appearing in the *Socrates* title screen is an abbreviated and slightly modified version of the *Seikilos Epitaph*, an ancient Greek stone inscription containing the oldest surviving complete musical composition, including both lyrics and musical notation. Although the *Seikilos Epitaph* dates to a later period of ancient Greek history, likely the 1st or 2nd century CE, Zachary Fruhling's sister, Amber Fruhling, suggested that we include this piece of authentic ancient Greek music, modified as needed, as the title screen music in *Socrates*. You can learn more about the *Seikilos Epitaph* with the following QR code and/or URL.

https://en.wikipedia.org/wiki/Seikilos_epitaph



(By Kanjuzi - Own work, CC BY-SA 4.0, *https://commons.wikimedia.org/w/index.php?curid=74307891*)

How Socrates Was Made

You can view a YouTube playlist of our various *Socrates* game development working sessions and devlogs—and how we brought *Socrates* to life from idea to TI Extended BASIC to compiling to Command Module!—with the following QR code and/or URL:

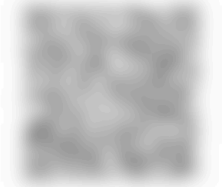
https://tinyurl.com/SocratesDevlopment

The idea for *Socrates* had been floating around in game developer Zachary Fruhling's mind for several years, given his fondness for retro adventure games in general and the TI-99/4A in particular, and given his experience as a philosopher and philosophy instructor. Zachary and co-developer Dylan Metzing collaborated by Discord once or twice per week over a period of about four months, with Zachary doing the bulk of the programming and Dylan taking charge of the artwork and other design elements.

Socrates was written in TI Extended BASIC using the *Sublime Text* code editor and the *Classic99* emulator. When the code for *Socrates* was complete, we compiled it using the *Extended BASIC Compiler*, after which we created the cartridge binary (.BIN) file using the *MAKECART* utility, both of which are part of Harry Wilhelm's *Extended BASIC Game Developer's Package* (i.e., *Juwel*). We collaborated with Gregory McGill from *ArcadeShopper.com* to produce and release *Socrates* in physical form as a TI-99/4A Command Module.

Digital Download Instructions

Your purchase of the *Socrates* Command Module includes a free digital download of both the binary (.BIN) file and the Extended Basic (XB) program file for use in any of the various TI-99/4A emulators (*Classic99*, *JS99'er*, *Win994a*, etc.). Use the following QR code and/or URL to claim your digital download:



Contact us via our website if you have any questions or concerns, or if you encounter any issues with your digital download.

About Spark Gap Games

Spark Gap Games is an indie game-development studio founded by Zachary Fruhling and Dylan Metzing, born out of a shared love of video games with a retro flair and a desire to add our own unique contributions to the video game world.

About Zachary Fruhling

Zachary Fruhling is a philosopher, philosophy instructor, instructional designer, educational content developer and author, indie game developer, and former podcast host, with over 25 years of experience in higher education, both in the classroom and in the educational technology industry.

Zachary was the creator and lead author of the successful Aplia homework solution for Patrick Hurley's *A Concise Introduction to Logic* and other philosophy course areas at Cengage Learning. He has taught philosophy at the University of California, Santa Cruz; Cabrillo College; Evergreen Valley College; and most recently at College of Eastern Idaho, where he has taught *Introduction to Logic*, *Critical Thinking*, *Introduction to Philosophy*, *Philosophy of Religion*, *Introduction to Ethics*, and other undergraduate philosophy courses.

Zachary was formerly the Director of Instructional Design at Thrive Scholars, helping to provide high-achieving students of color from low-income communities the opportunities they need to thrive at top colleges and in meaningful careers. Before joining Thrive Scholars, Zachary was a Senior Instructional Designer for HotChalk, Inc. where he developed graduate-level online courses for universities such as Concordia University, Nebraska and Concordia University, Portland. Zachary was also a member of the SHARE Professional Learning platform development team where he authored online professional development materials and

developed multimedia content for K-12 educators on topics such as Trauma & Resilience and Environmental Education.

Zachary was the co-host of two podcasts on the Trek.fm podcast network: *Meta Treks: A Star Trek Philosophy Podcast* and *To The Journey: A Star Trek Voyager Podcast*, the latter of which was a 2018 Parsec Award winner for the best speculative fiction fan or news podcast.

In addition, Zachary was a co-founder of Doodle Dudes LLC, a mobile game development company developing elegant and fun mobile apps. Most recently, in addition to Spark Gap Games, Zachary is the founder and creative director of Fruhling Designs, which offers a line of digital download cross-stitch patterns for needlecraft hobbyists.

Zachary also has numerous other interests such as writing and blogging *(Meta Meditations: A Philosophy Blog* and *See Me Get Rich: A Personal Finance Blog*), guitar and piano, hiking and fishing, investing and personal finance, Latin language and literature, ancient history and culture, online gaming (e.g., *World of Warcraft*), and the culinary arts. He is also a licensed amateur radio operator—i.e., ham radio operator—holding the call sign KD6DXA since 1991.

About Spark Gap Games

About Dylan Metzing

Dylan Metzing is a video game designer, artist, musician, and poet who aspires to create video game art that is so completely transparent and natural that people feel fully immersed in the experience of the game without the art overpowering or distracting from the game itself. Dylan started creating video games with Zachary Fruhling in 2025 after bonding over a shared love for retro video games and brainstorming video game ideas over pizza and a beer one fortuitous night (as fortuitous as when John Lennon met Paul McCartney!) in Ashland, Oregon. Dylan has been the lead artist and audio designer for Spark Gap Games ever since, and he has ideas for several future Spark Gap Games projects and creations.

Dylan creates experimental, new-age, and genre-crossing beats and songs with his music partner, Max Ostrov, under the band name "Happy Accidents." You can find his unofficially released music on Soundcloud under "Happy Acidentz" (*https://soundcloud.com/happy-acidentz*). Dylan has been making music since 2018 when he went to a Wookiefoot concert and was inspired to create music like theirs! He did music on his own until 2021 when he met Max Ostrov in Ashland and immediately hit it off, jamming on cajons for at least 14 hours straight at their first meeting! Since then Max and Dylan have created hundreds of songs together that have yet to be released, with plans to get them mixed, mastered, and out into the world for people to enjoy (ASAP)!

Dylan also writes world-conscious poems, some of which can be found on his website: *https://dylanmetzing.neocities.org/*. Dylan started his poetry, inspired by world events, in late 2022. He has since written dozens of poems with intentions to refine and share them with the public at local poetry slams and open-mic nights.

Where to Find Our Games

You can purchase *Socrates* and any of our future TI-99/4A cartridge games from *ArcadeShopper.com*, from *itch.io*, or directly from us via the Spark Gap Games website using the following QR codes and/or URLs.

https://sparkgapgames.com/

https://sparkgapgames.itch.io/

https://www.arcadeshopper.com/

The digital version (v1.2.1) of this manual, available on the Spark Gap Games website, contains clickable links (i.e., hyperlinks) to all listed websites.

Where to Find Our Games

In addition to our TI-99/4A games, Spark Gap Games also produces games for other platforms. Be sure to check out our free-to-play, retro, 8-bit-style, *Dragon Ball Z* themed fighting game, *Freiza's Fury: A Dragon Ball Z Fan Project* (Spark Gap Games, 2025), for the PICO-8 fantasy console. *Frieza's Fury* can be played in your browser (two players; game controllers recommended) or downloaded for free—including versions for Windows, Mac, Linux, and Raspberry Pi—via the following QR code and/or URL:

https://sparkgapgames.itch.io/friezas-fury-a-dragon-ball-z-fan-project

Spark Gap Games was established in 2025, and *Socrates* is our second official release. We have future plans for a variety of upcoming games for the TI-99/4A and for modern game engines such as Stencyl, Godot, and PICO-8. Watch for our modern games on various game distribution platforms such as Steam, the Apple App Store, the Google Play Store, etc. The Spark Gap Games website (*https://sparkgapgames.com/*) will have news of our future game releases and links to our game development live streams on Twitch and YouTube.

Acknowledgements

We would like to acknowledge and thank the following:

- Brad Snyder for regularly attending our game development live streams on Twitch, and for being a conversation partner and game tester during the development process for *Socrates*.
- Odd Kristensen for hanging out with us on Twitch nearly every stream, for reminding us to keep our code lean, and for providing us with much-needed company, laughs, moral support, and ideas we never would have thought of.
- Gregory McGill from *ArcadeShopper.com* for his collaboration in producing and distributing *Socrates* in Command Module form, and for kindly answering even our most embarrassingly basic of TI-99/4A technical questions.
- Our many followers and viewers on Twitch, YouTube, Discord, and the AtariAge TI-99/4A message board for their time, enthusiasm, comments, help, and suggestions throughout our journey developing *Socrates*.
- Mike Brent (a.k.a. Tursi) for developing the *Classic99* emulator (*https://harmlesslion.com/software/classic99/*), without which the development of *Socrates* would not have been possible and which has enabled viable software development for the TI-99/4A into the 21st century.
- Harry Wilhelm for developing the *Extended BASIC Game Developer's Package* (i.e., *Juwel*), specifically the *Extended BASIC Compiler* and the *MAKECART* utilities allowing for easier development of new TI-99/4A cartridges / Command Modules without direct knowledge of assembly language programming.
- Dylan's parents—Phillip & Laura Metzing, and Lisa & David Roberts—for their lifelong love and support for anything I decide to pursue.
- Zachary's mother, Suzanne A. Forssell (without whom I would not have turned out as normal as I did!)

Acknowledgements

- Zachary's father, George A. Fruhling (R.I.P.), for purchasing a TI-99/4A in the early 1980s and for beginning my lifelong interest in the TI-99/4A Home Computer.
- Zachary's grandmother, Velma V. Fruhling, for teaching me early in life that you can accomplish anything you set your mind to.
- Zachary's girlfriend, Susan Douglas, for her love, understanding, patience, and encouragement during our many game-development / programming sessions and live streams.
- The teachers of America, and Zachary's and Dylan's teachers in particular, from preschool through higher education, who gave their time not only to pass down knowledge but also to instill in us a creative spark that informs all of our projects and everything we do!
- The members of the original TI-99/4A development team; their contributions to computing history inspired countless computer enthusiasts like Zachary to learn computer programming and to bring their own creations to life on the screen.
- Finally, Socrates himself—and Plato for getting the last word!

"Education is the kindling of a flame, not the filling of a vessel."
~ Socrates

In Loving Memory: George A. Fruhling

Socrates is dedicated to Zachary's father, George A. Fruhling, who was instrumental in sparking Zachary's interest in the TI-99/4A Home Computer in the first place:

I don't remember exactly when my dad first brought home a TI-99/4A Home Computer, but it was likely shortly after its release in 1981 or early 1982. While I have fond memories of many TI cartridge games from those days (e.g., *Early Learning Fun*, *Beginning Grammar*, *Alpiner*, *Zero Zap*, etc.), my fondest memory of my dad and the TI-99/4A was the space-shooter game that my dad programmed for me in TI BASIC. The game was called *Shooting Star*, and the goal was to shoot at an asterisk that would spawn at a random position on the screen edge and move across the screen in a random direction at a random velocity. Even though *Shooting Star* was relatively simple, even by early-1980s standards, I happily spent hours playing it and trying to modify its code to learn how it worked. I kept a copy of *Shooting Star* for many years, but, sadly, it has since been lost and I have been unable to locate the cassette on which it was stored.

Other fond TI-99/4A memories with my dad come to mind: messing around with the *Speech Synthesizer* and testing its limits to see what it could and couldn't say, learning to type with the *Touch Typing Tutor* Command Module, typing in programs together from the *Beginner's BASIC* book packaged with the TI-99/4A, and learning to write simple TI BASIC programs of my own on company-branded graph-paper pads that my dad would bring home from work and let me use for writing programs.

I wish my dad were still alive to see what we've created for the TI-99/4A in the form of our *Socrates* cartridge, but I know that he would have been proud of me for it, as he never failed to take the time to tell me that he was. — Zachary Fruhling

In Loving Memory: George A. Fruhling

George A. Fruhling (1949–2023)

Take on the persona of Socrates and experience Plato's dialogues as you explore ancient Athens. Speak with your fellow Athenians and discover why Socrates was such an enigmatic figure in the history of philosophy—loved and revered by some, hated and feared by others!

Socrates introduces you to an array of philosophical topics as you:

- Experience conversations based on 37 of Plato's dialogues!
- Wander an open world and philosophize with your fellow Athenians!
- Complete dialogues to unlock hidden rooms!
- Find your way to the final room and share in Socrates's final moments!

Use the keyboard or optional wired controllers to navigate ancient Athens using the included map as your guide.

Requires 32K memory expansion!

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